

Amendments to the Specification

In the Drawings

Please delete Figures 29A, 29B, and 29C.

Please substitute Figures 3, 13, 14, 15, 30, and 31 with the attached Figures 3, 13, 14, 15, 29A, 29B, and 30.

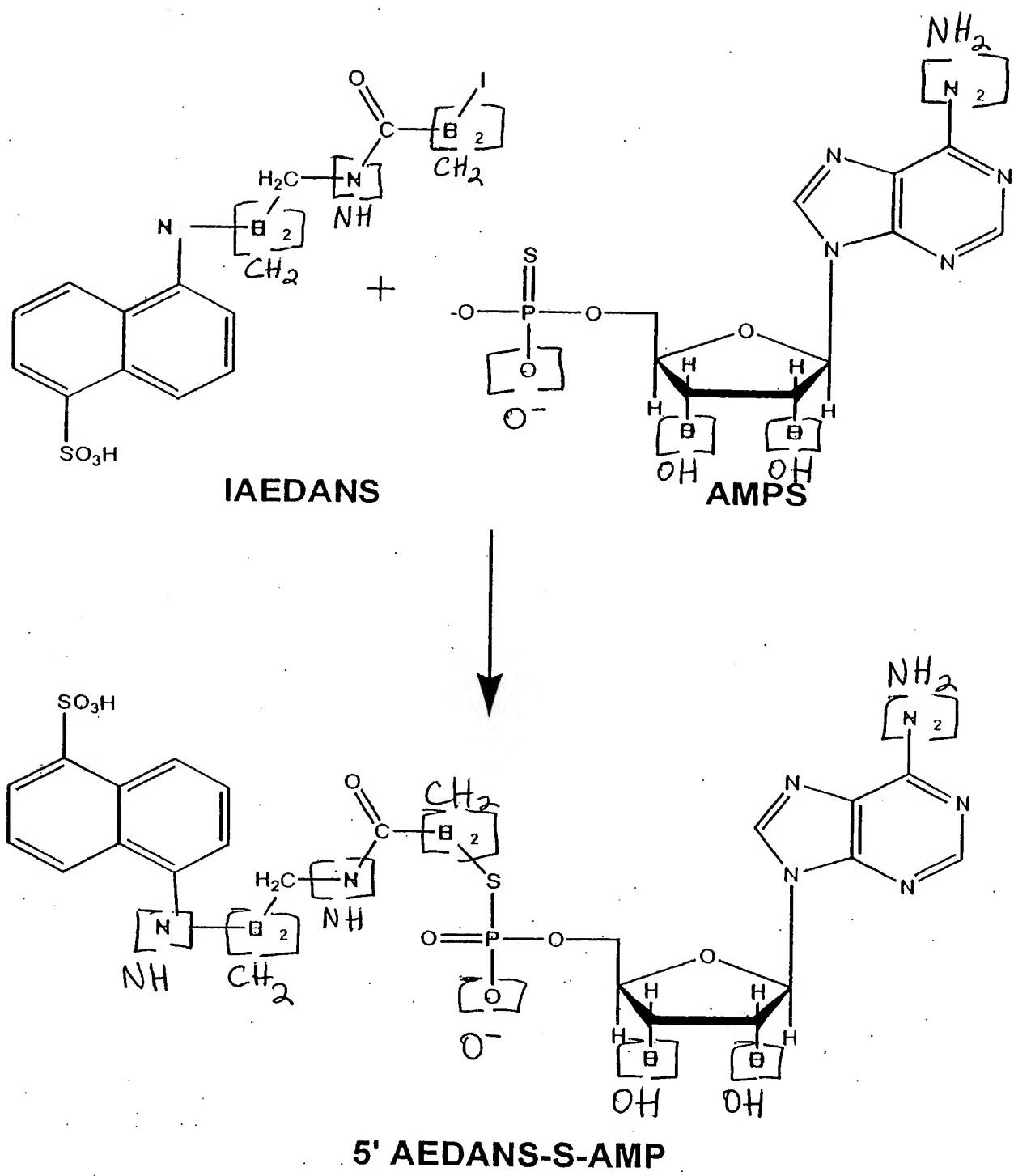


FIGURE 3

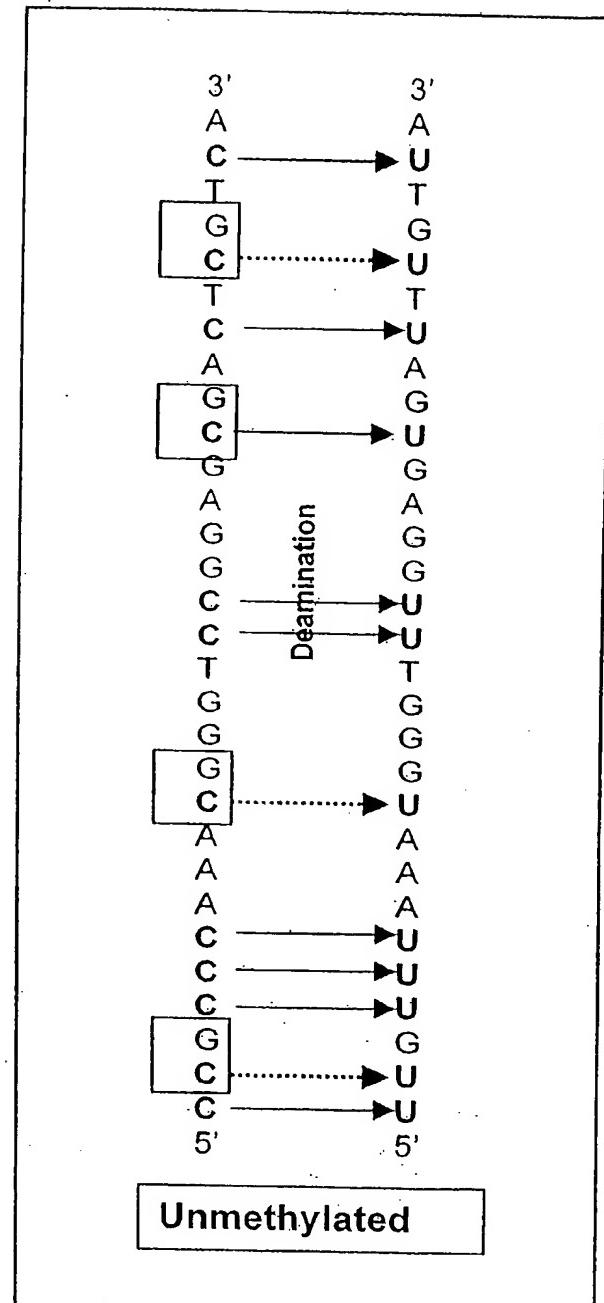
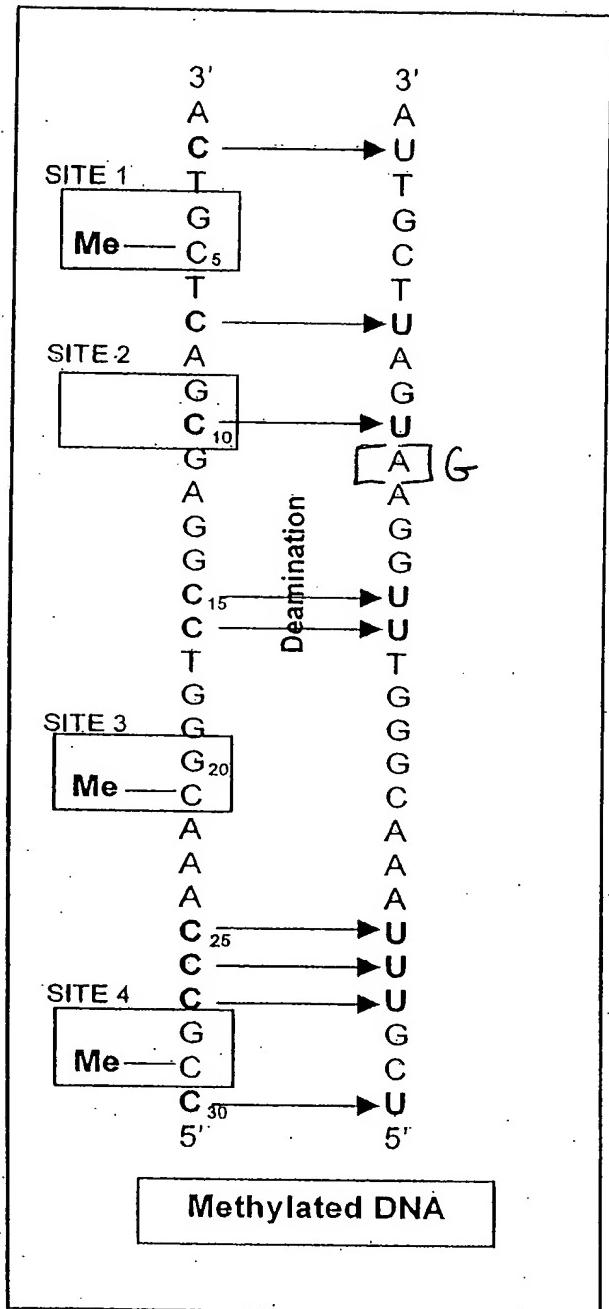
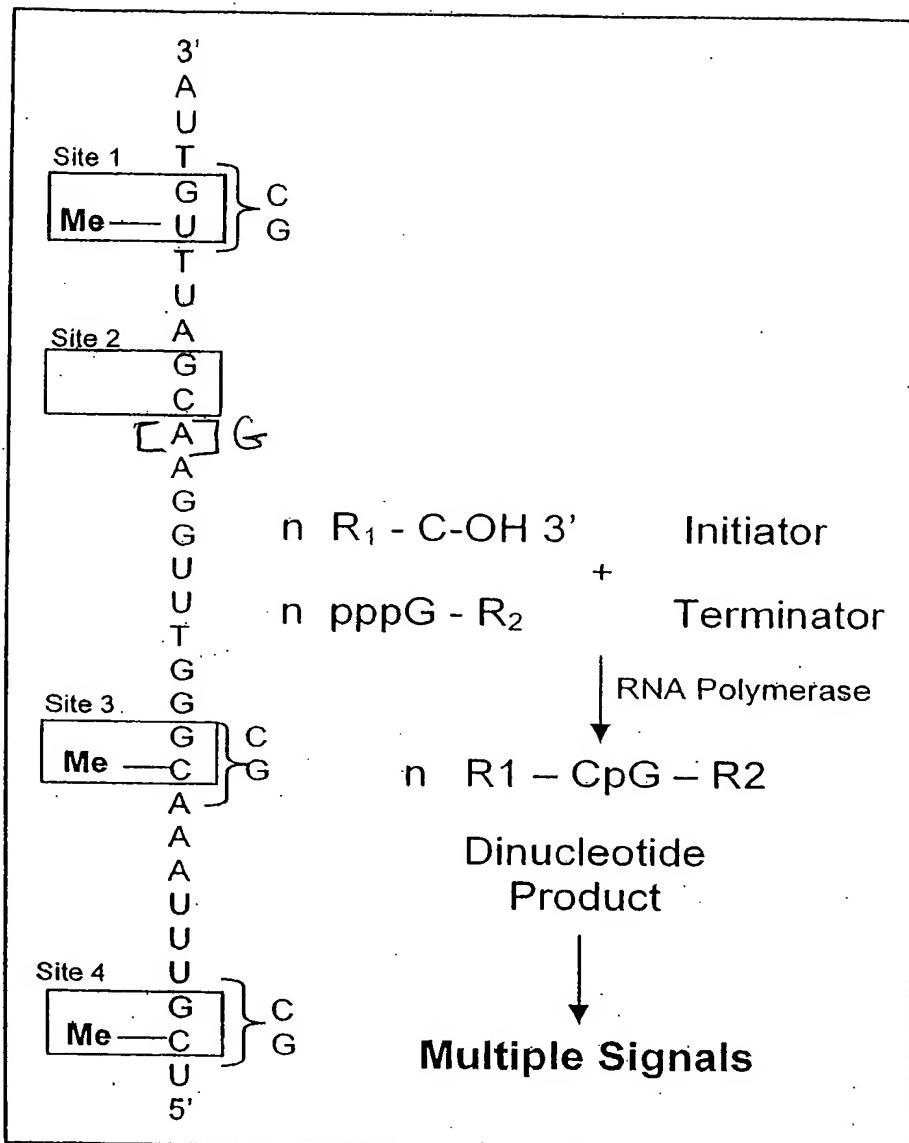
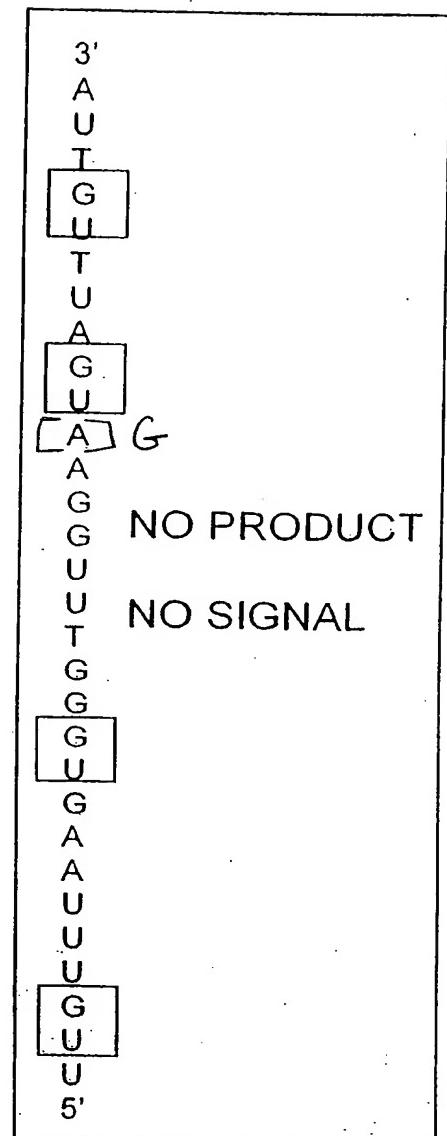


FIGURE 13



Deaminated Methylated DNA



Deaminated
Unmethylated
DNA

FIGURE 14

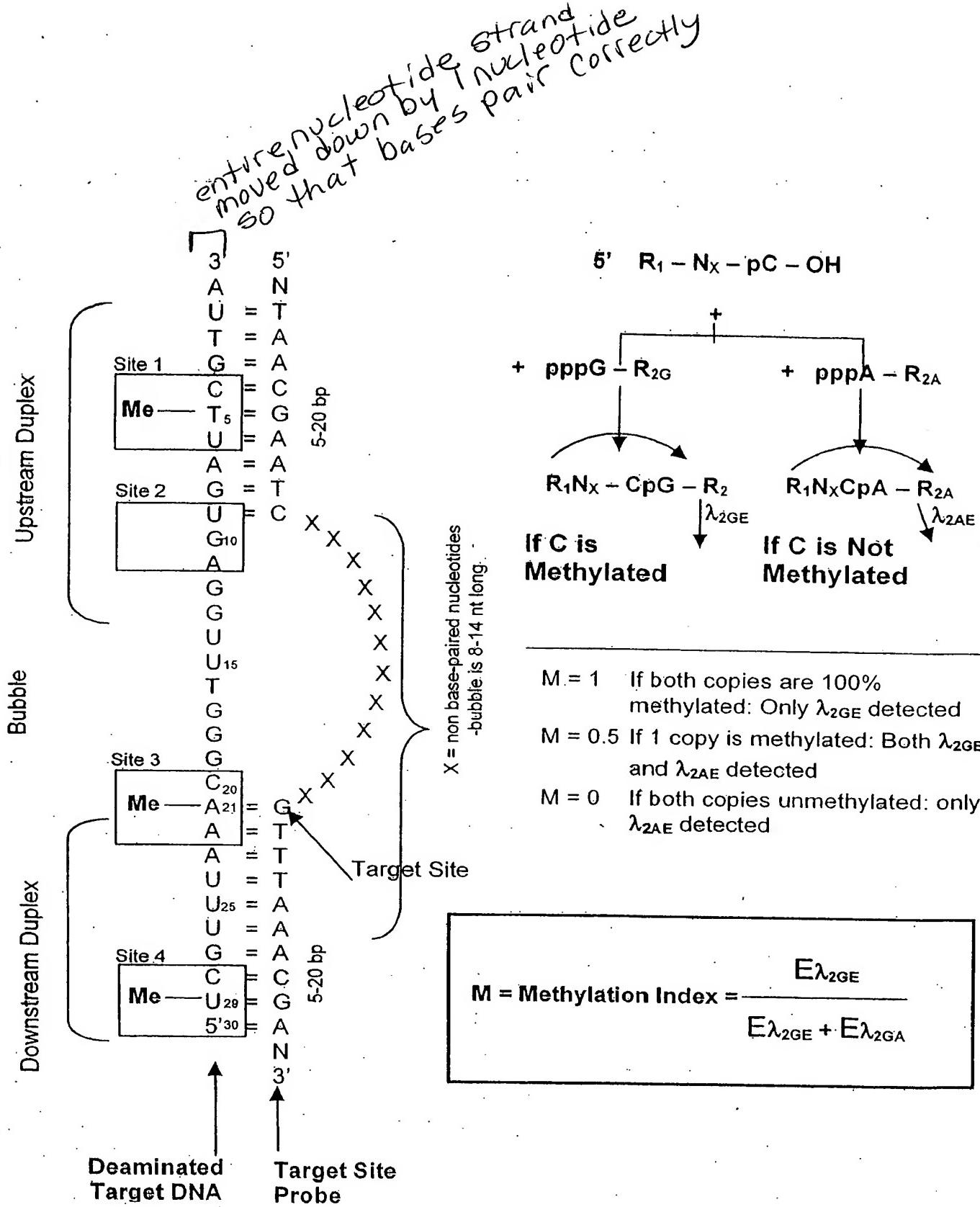


FIGURE 15

Figure 30

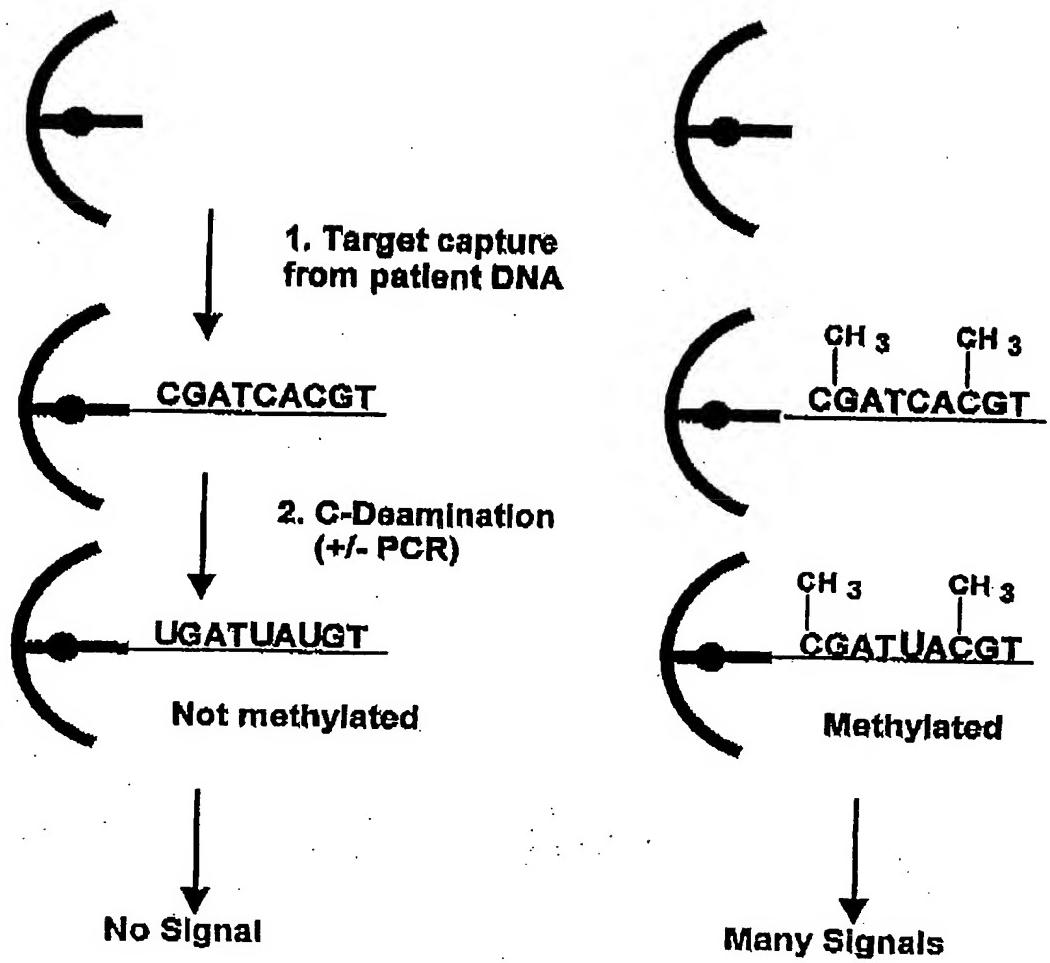


FIGURE [31]

30

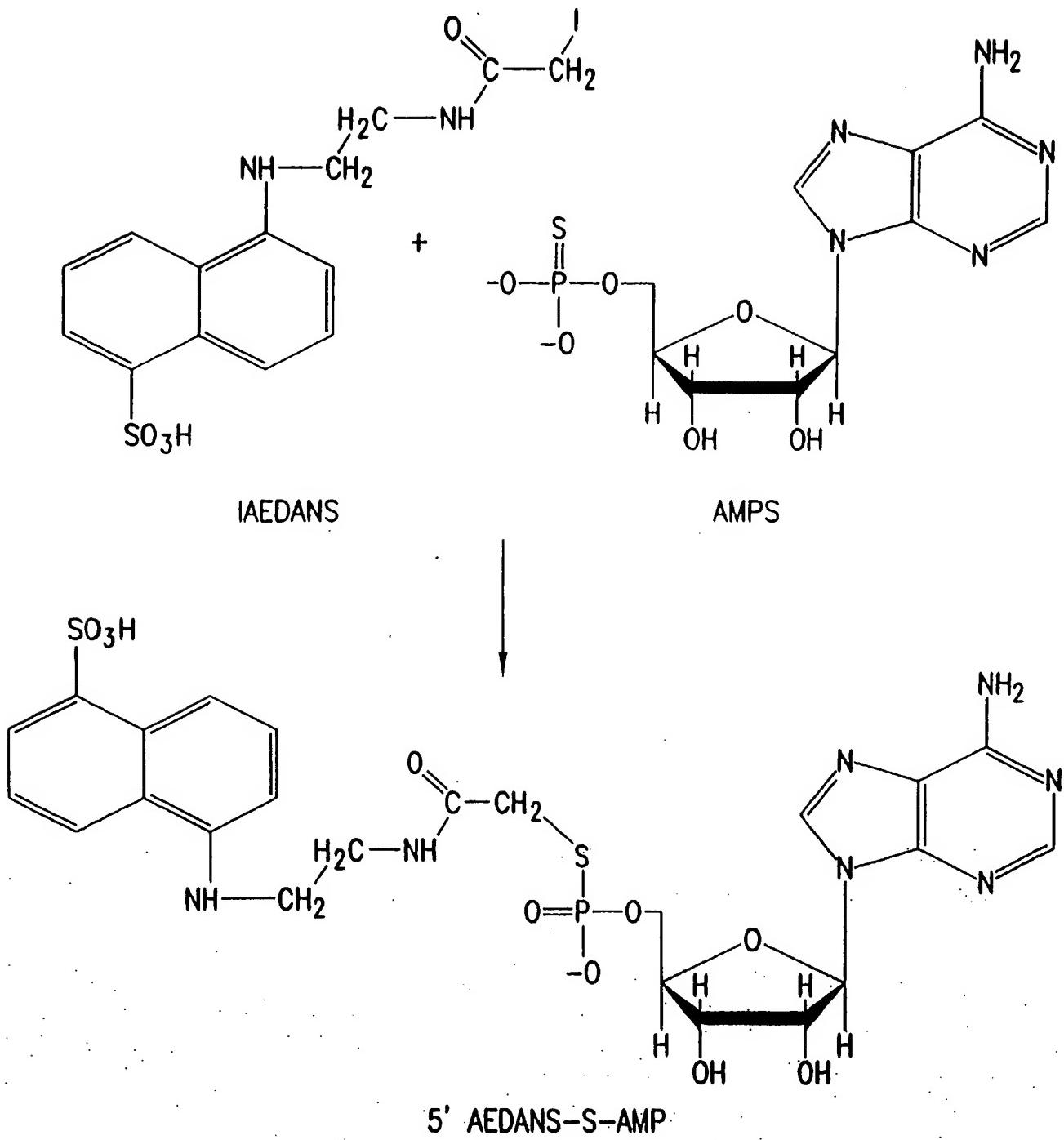


FIG.3

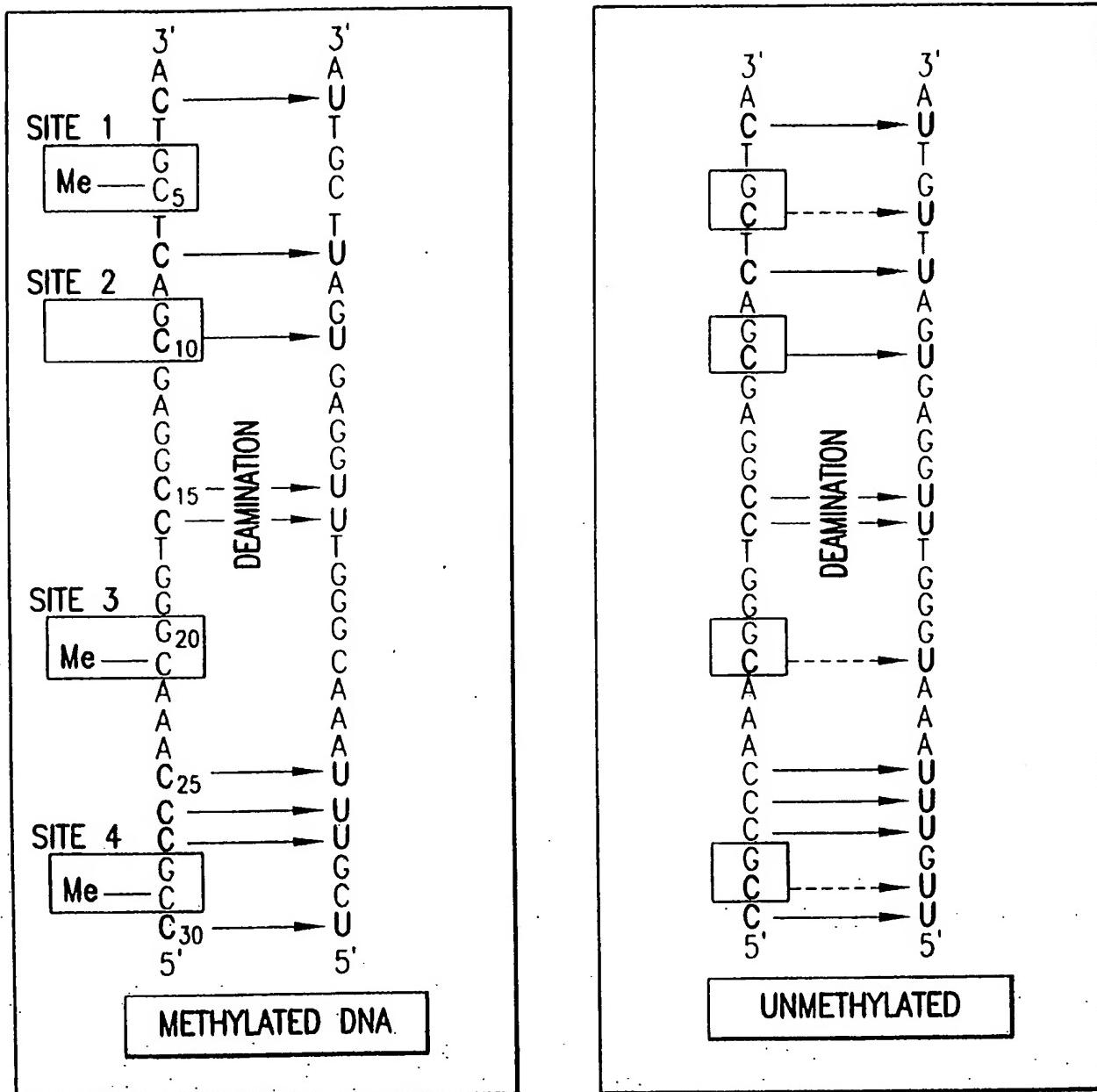
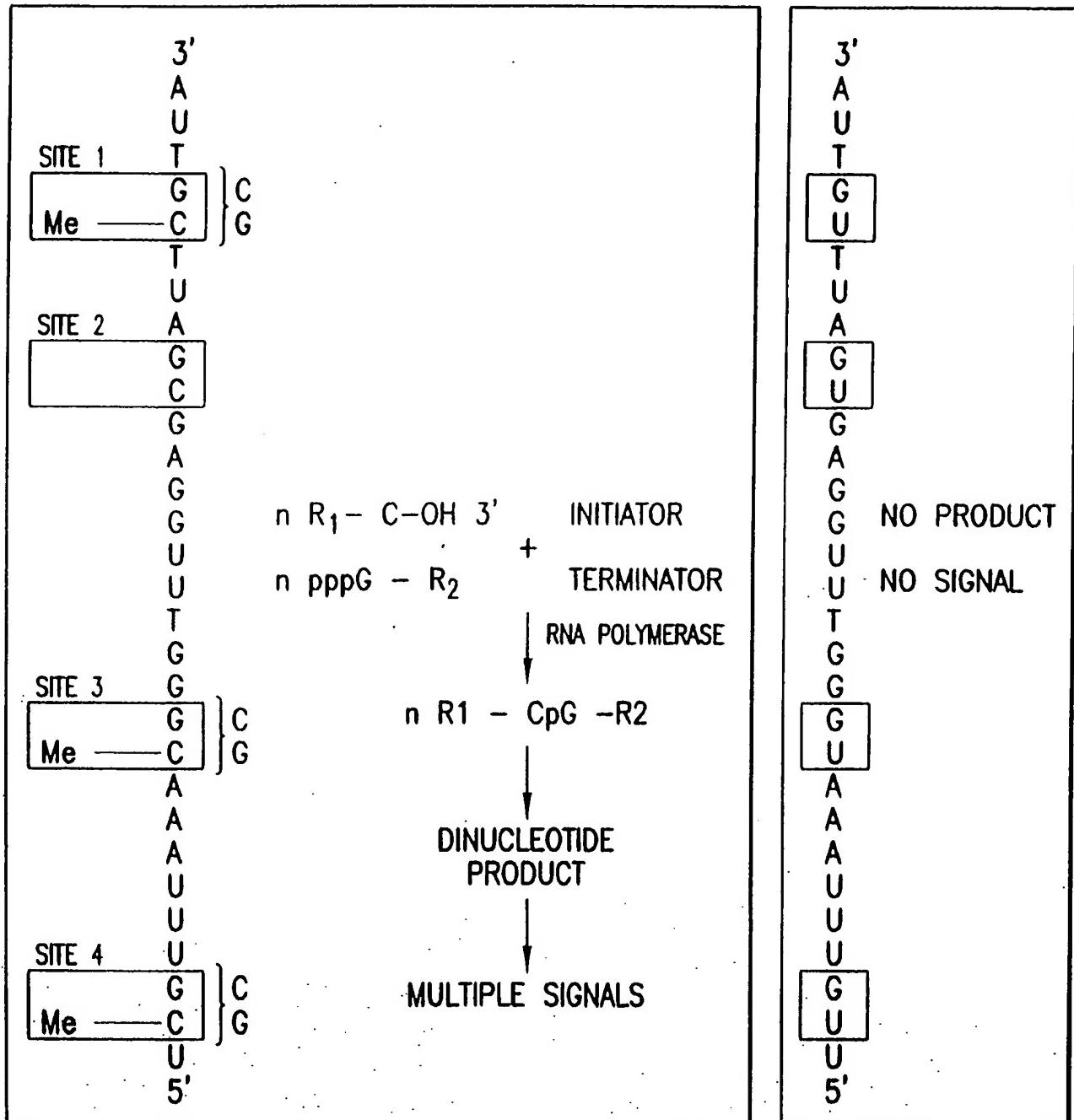


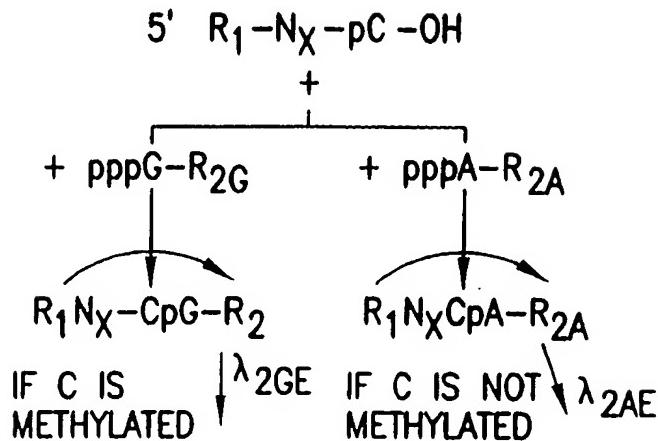
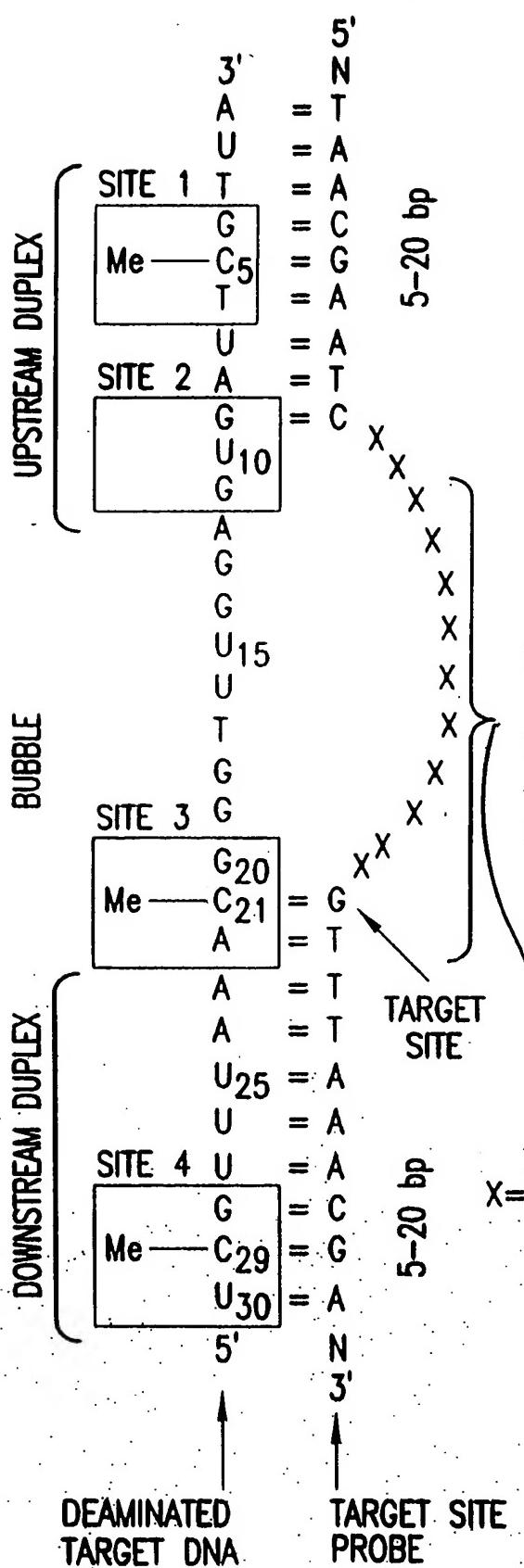
FIG. 13



DEAMINATED METHYLATED DNA

DEAMINATED
UNMETHYLATED
DNA

FIG.14



M=1 IF BOTH COPIES ARE 100%
METHYLATED: ONLY λ_{2GE} DETECTED

M=0.5 IF 1 COPY IS METHYLATED: BOTH λ_{2GE}
AND λ_{2AE} DETECTED

M=0 IF BOTH COPIES UNMETHYLATED: ONLY
 λ_{2AF} DETECTED

$$M = \text{METHYLATION INDEX} = \frac{E\lambda_{2GE}}{E\lambda_{2GE} + E\lambda_{2GA}}$$

X=NON BASE-PAIRED NUCLEOTIDES
-BUBBLE IS 8-14 nt LONG

FIG. 15

FIG. 29A

GGTGTATGTTGGAATAAATATCGAATATAAATTGATCGAAATTATTAGAAGCGGCCGGGCAGGTGCCTC
ACGCCTTGTAAATCCCTCACTTGGGAGATCAAGGCGGGGGAAATCACCTGAGGTGGGAGTTGAGACCA
GCCTGGCCAACAGGTGAAACCTCGCCTCTACTAAAAATACAAAAAGTAGCCGGGGTGGTGGCAGGCGCCT
GTAATCCCAGCTACTCGGGAGGTTGAGGCAGGAGAACGCTTGAAACCCGGGAGGCTGAGGTTGAGTGAAC
AGCGAGATGGAGCCACTCACTCCAGCCTGGGTGACAGAGTGAGACTTTGTCGAAAGAAAAGAGAGAGAA
AGAGAGAGAGAAAAATTATTAGAAGCAACTACATATTGTGTTATTAACTGAGTAGGGCAAATAAATATA
TGTTTGCTGTAGGAACCTAGGAATAATGAGCCACATTGATCATTCAGAGGTAATATGTAGTTACCAT
TTTGGGAATATCTGCTAACATTGGCTTTACTATCTTAGCTTACTGATATAGTTATTGTGATAAGAG
TTTCAATTCCCTCATTTGAACAGAGGTGTTCTCCTCTCCCTACTCCTGTTGTGAGGGAGTTAGGGAG
GATTAAAAGTAATTAAATACATGGGTAACCTAGCATCTCTAAATTGCCAACAGCTGAAACCCGGGAGTTG
GCTTGTAGTCCTACAATATCTAGAAGAGACCTTATTGTTAAAACAAAAGGAAAAGAAAAGTGGATAG
TTTGACAATTAAATGGAG

FIG. 29B

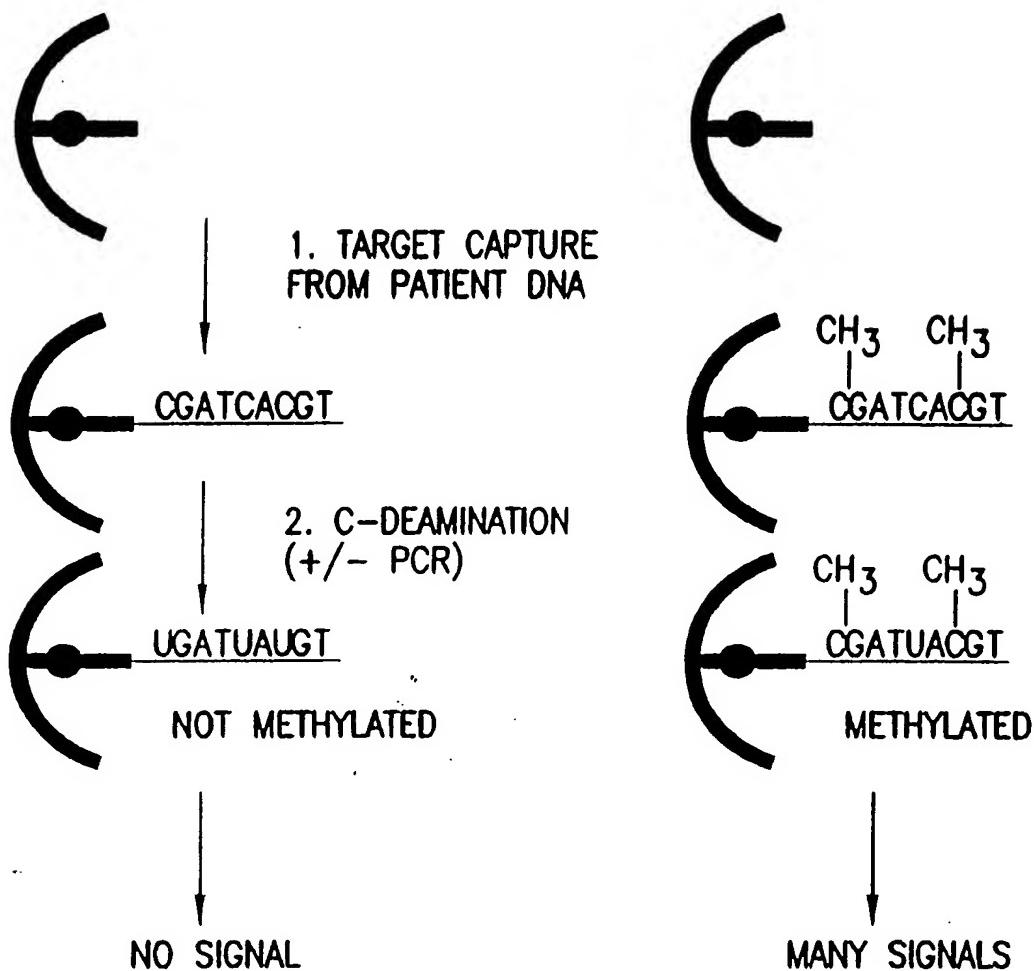


FIG. 30